



Title of the Invention: METHOD AND SYSTEM
FOR AUTOMATED SELECTION OF OPTIMAL....
Inventor's Name: T. Rappaport, et al.
Docket No./Application No. 09/667,689
REPLACEMENT SHEET

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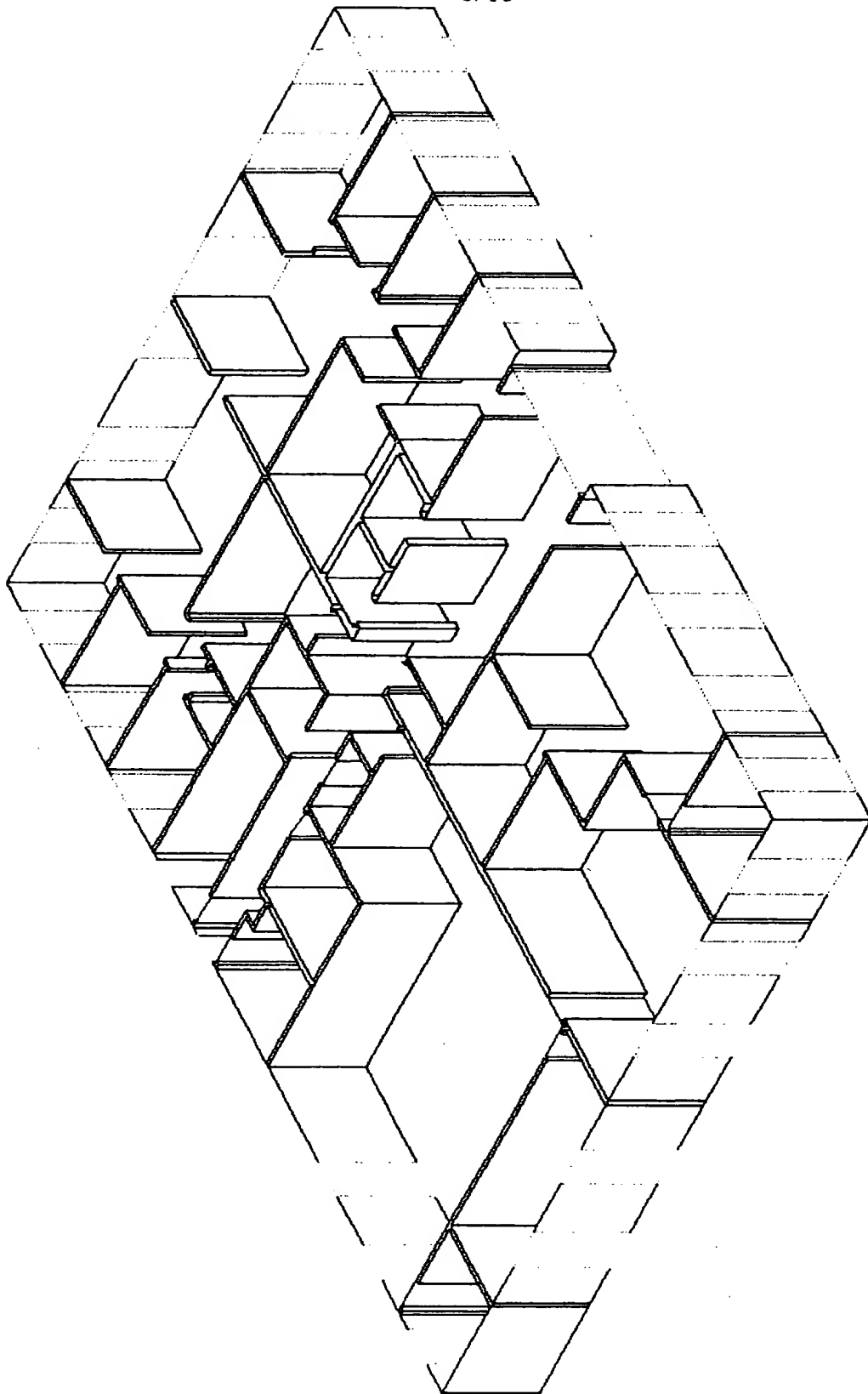
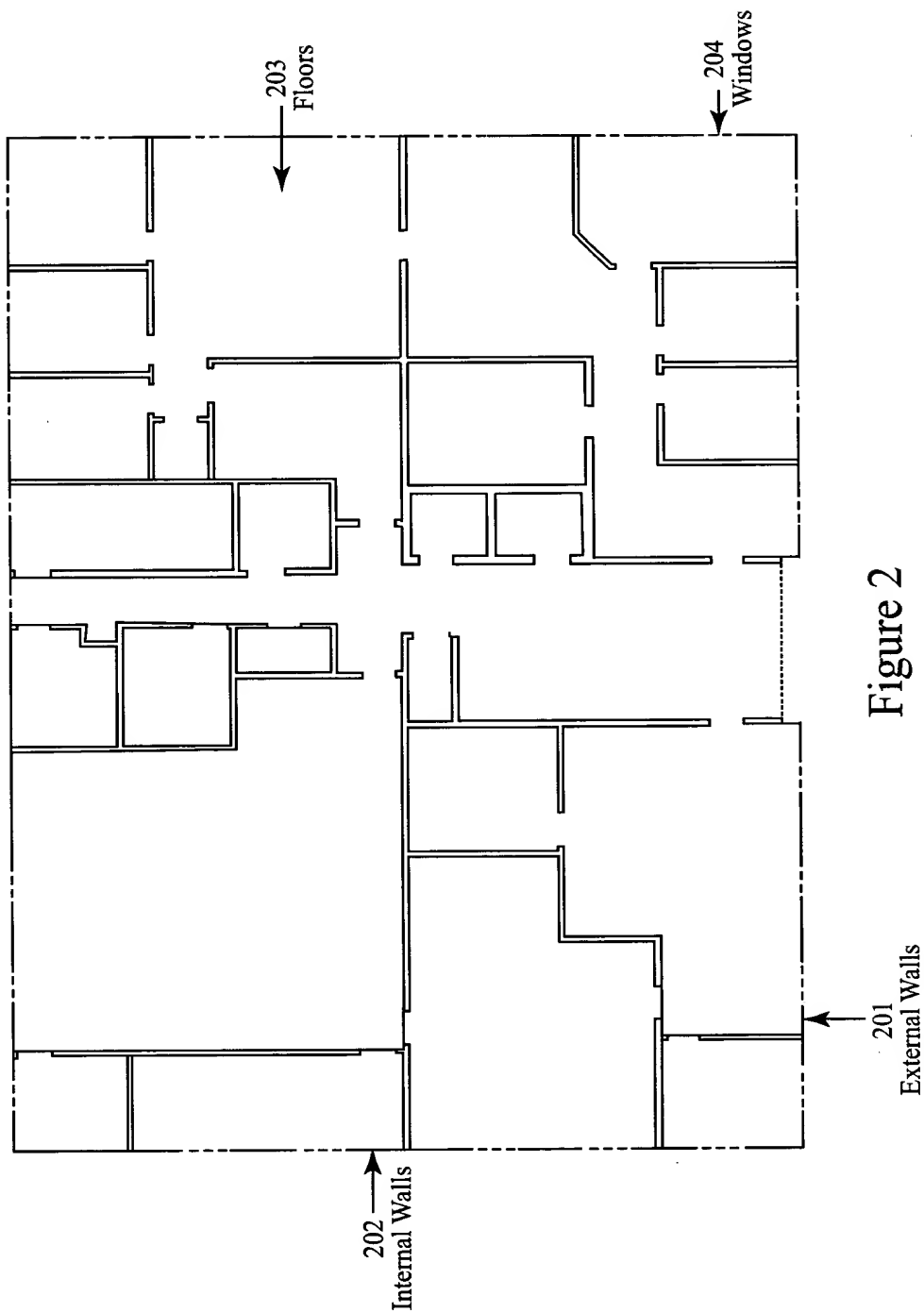


Figure 1



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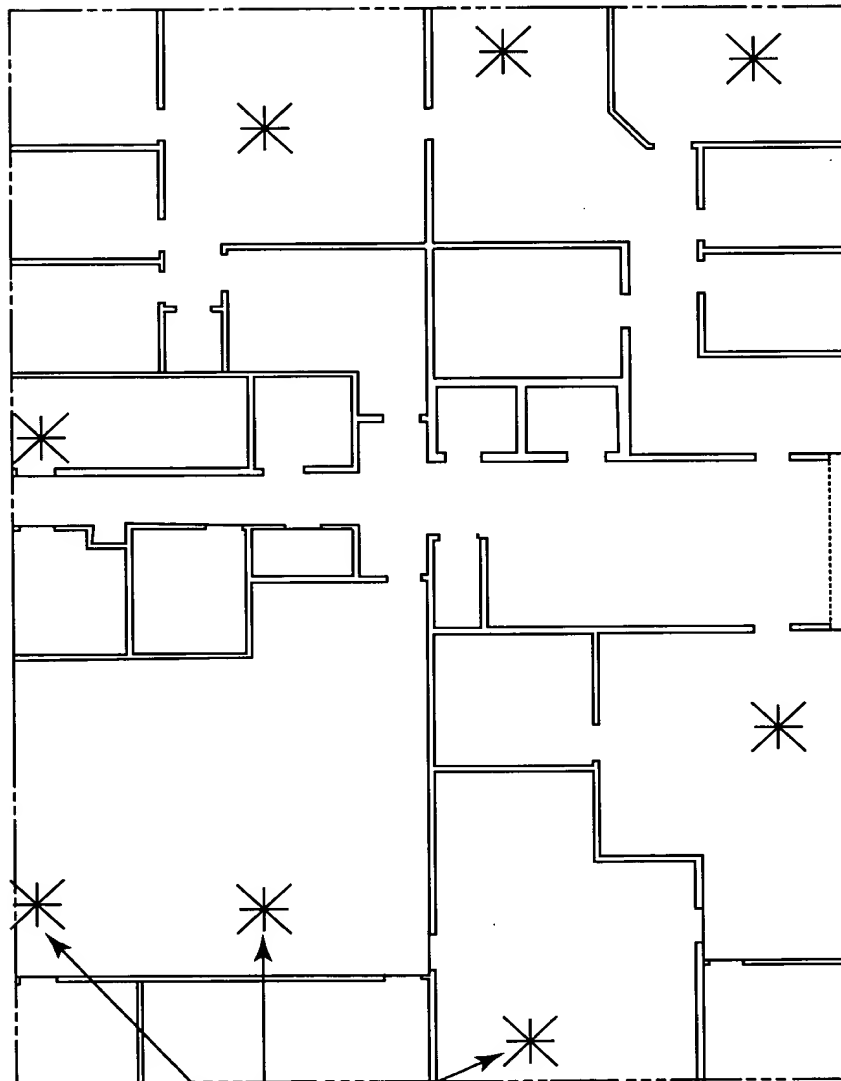
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301
Boundary
Locations
& desired
performance
metrics

Figure 3



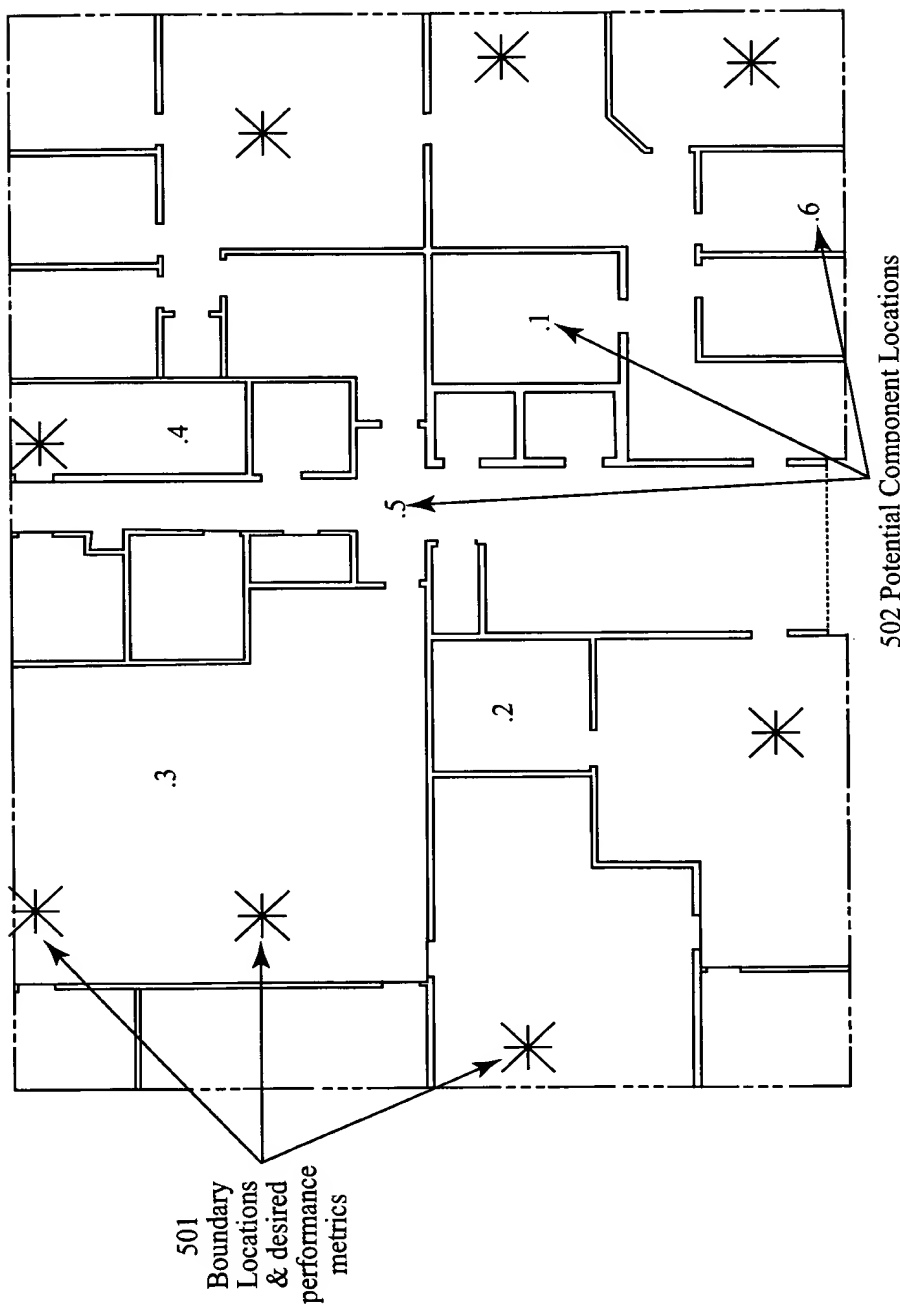
402

Select Component from Database to Add									
Type	Manufacturer	Decibel Product	Part #	Description	Loss (dB)	Connections	Physical Cost	Integration Cost	Integration Cost
ANTENNA_POINT	Decibel Products	DB884 H45	60 deg. 11 dB Gain	0.00	1	0.00	0.00	0.00	0.00
ANTENNA_POINT	Decibel Products	DB884 H60	45 deg. 15 dB Gain	0.00	1	0.00	0.00	0.00	0.00
ANTENNA_POINT	Decibel Products	DB886 H60	60 deg. 14.3 dB Gain	0.00	1	0.00	0.00	0.00	0.00
ANTENNA_POINT	Decibel Products	DB884H50	60 deg. 15 dB Gain	0.00	1	0.00	0.00	0.00	0.00
ANTENNA_POINT	Decibel Products	DB889H60	60 deg. 13 dBd gain panel	0.00	1	0.00	0.00	0.00	0.00
ANTENNA_POINT	Decibel Products	DB898H60	60 deg. 16 dB gain panel	0.00	1	0.00	0.00	0.00	0.00
ANTENNA_POINT	Decibel Products	DB958DD90-M	90 deg. 13.5 dBd Gain PCS 45/45	0.00	1	0.00	0.00	0.00	0.00
ANTENNA_POINT	Decibel Products	DB974H105 1320	105 deg. 10.50 dB Gain 1320 MHz	0.00	1	0.00	0.00	0.00	0.00
ANTENNA_POINT	Decibel Products	DB974H90	11 dBd Gain 90 deg.	0.00	1	0.00	0.00	0.00	0.00
ANTENNA_POINT	Decibel Products	DB978H120	120 deg. 13 dBd Gain PCS	0.00	1	0.00	0.00	0.00	0.00
ANTENNA_POINT	Decibel Products	DB978H90M	90 deg. 14 dBd Gain PCS	0.00	1	0.00	0.00	0.00	0.00
ANTENNA_POINT	Decibel Products	DB980H105-M	105 deg. 14.5 dBd Gain PCS	0.00	1	0.00	0.00	0.00	0.00
ANTENNA_POINT	Decibel Products	DB980H120-M	120 deg. 14 dBd Gain PCS	0.00	1	0.00	0.00	0.00	0.00
ANTENNA_POINT	Decibel Products	DB980H65-M	65 deg. 16.5 dBd Gain PCS	0.00	1	0.00	0.00	0.00	0.00
ANTENNA_POINT	Decibel Products	DB980H90M	90 deg. 15 dBd Gain PCS	0.00	1	0.00	0.00	0.00	0.00
ANTENNA_POINT	EMS Wireless	105100NAS	Wireless 105 deg. 9.5 dBd Gain Panel	0.00	1	0.00	0.00	0.00	0.00
ANTENNA_POINT	EMS Wireless	601500NA	60 deg. 15.0 dBd gain panel	0.00	1	0.00	0.00	0.00	0.00
ANTENNA_POINT	EMS Wireless	900500NA	90 deg. 9.3 dBd gain Panel	0.00	1	0.00	0.00	0.00	0.00
ANTENNA_POINT	EMS Wireless	900500NAS	90 deg. 9.5 dBd gain panel	0.00	1	0.00	0.00	0.00	0.00
ANTENNA_POINT	EMS Wireless	900510NA	90 deg. 9.5 dBd gain panel	0.00	1	0.00	0.00	0.00	0.00
ANTENNA_POINT	EMS Wireless	900510NAS	90 deg. 9.5 dBd gain panel	0.00	1	0.00	0.00	0.00	0.00
ANTENNA_POINT	EMS Wireless	901200NA	90 deg. 12 dBd gain Panel	0.00	1	0.00	0.00	0.00	0.00
ANTENNA_POINT	EMS Wireless	901200NAS	90 deg. 12.0 dBd gain Panel	0.00	1	0.00	0.00	0.00	0.00
ANTENNA_POINT	EMS Wireless	901205NAS	90 deg. 12.5 dBd gain Panel	0.00	1	0.00	0.00	0.00	0.00
ANTENNA_POINT	EMS Wireless	901210NAS	90 deg. 12.0 dBd gain Panel	0.00	1	0.00	0.00	0.00	0.00
ANTENNA_POINT	EMS Wireless	901300NA	90 deg. 13.3 dBd gain Panel	0.00	1	0.00	0.00	0.00	0.00
ANTENNA_POINT	EMS Wireless	DV105-08-00_A2	OptiRange 8dBd Vertical Polar Array	0.00	1	0.00	0.00	0.00	0.00
ANTENNA_POINT	EMS Wireless	DV105-08-00_M2	OptiRange 8dBd Vertical Polar Array	0.00	1	0.00	0.00	0.00	0.00
ANTENNA_POINT	EMS Wireless	DV105-09-00_A2	OptiRange 9dBd Vertical Polar Array	0.00	1	0.00	0.00	0.00	0.00
ANTENNA_POINT	EMS Wireless	DV105-09-00_M2	OptiRange 9dBd Vertical Polar Array	0.00	1	0.00	0.00	0.00	0.00
ANTENNA_POINT	EMS Wireless	DV65-10-00_A2	OptiRange 10dBd Vertical Polar Array	0.00	1	0.00	0.00	0.00	0.00

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Figure 4

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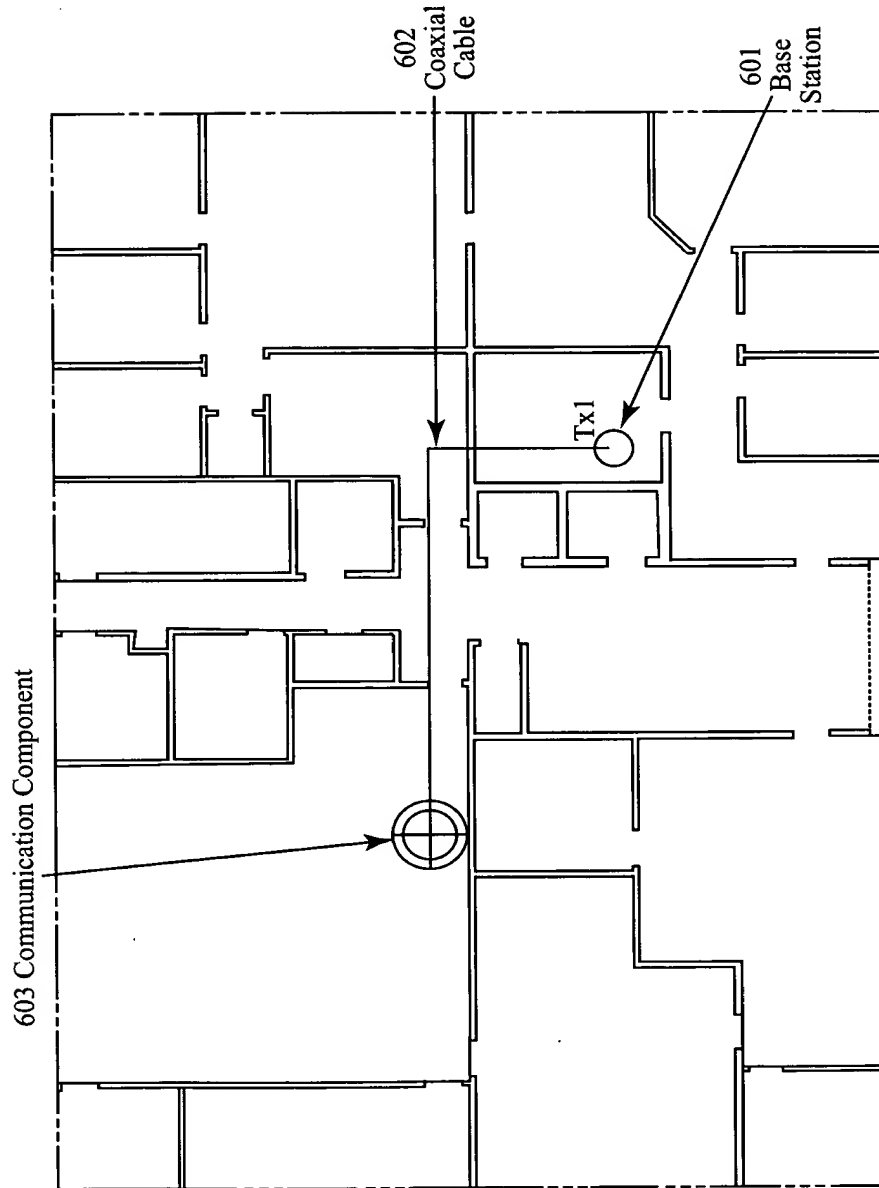


Figure 6

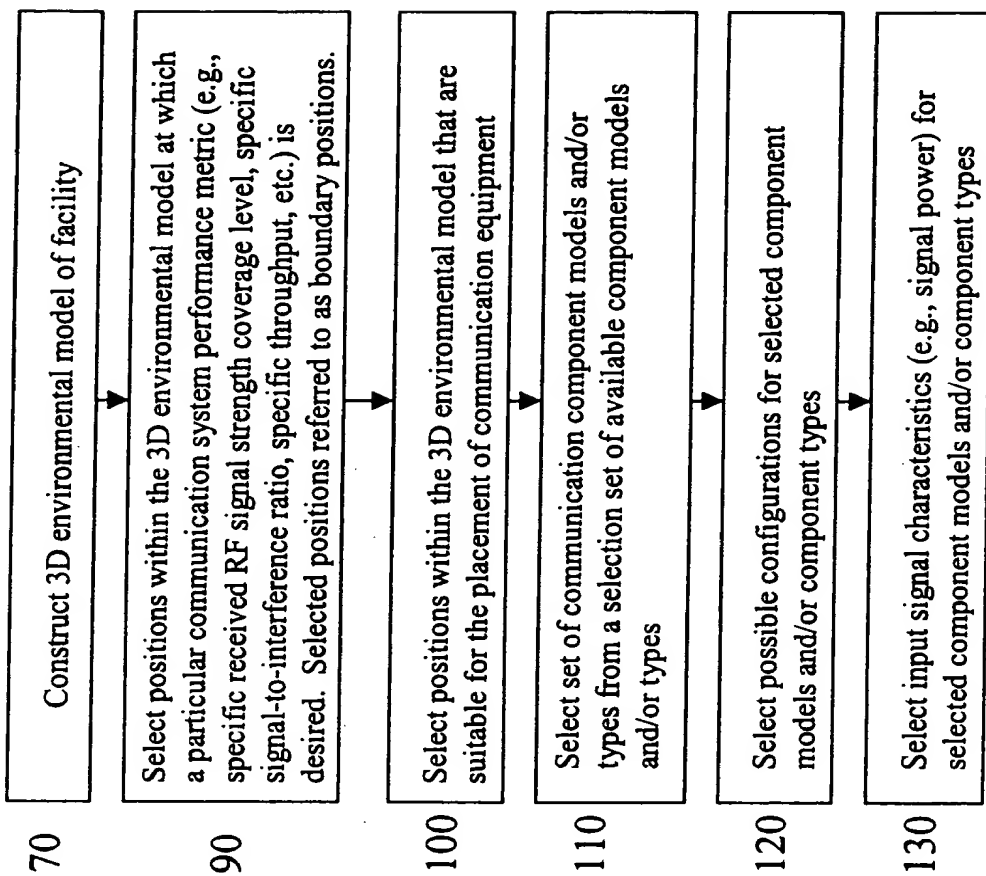


Figure 7

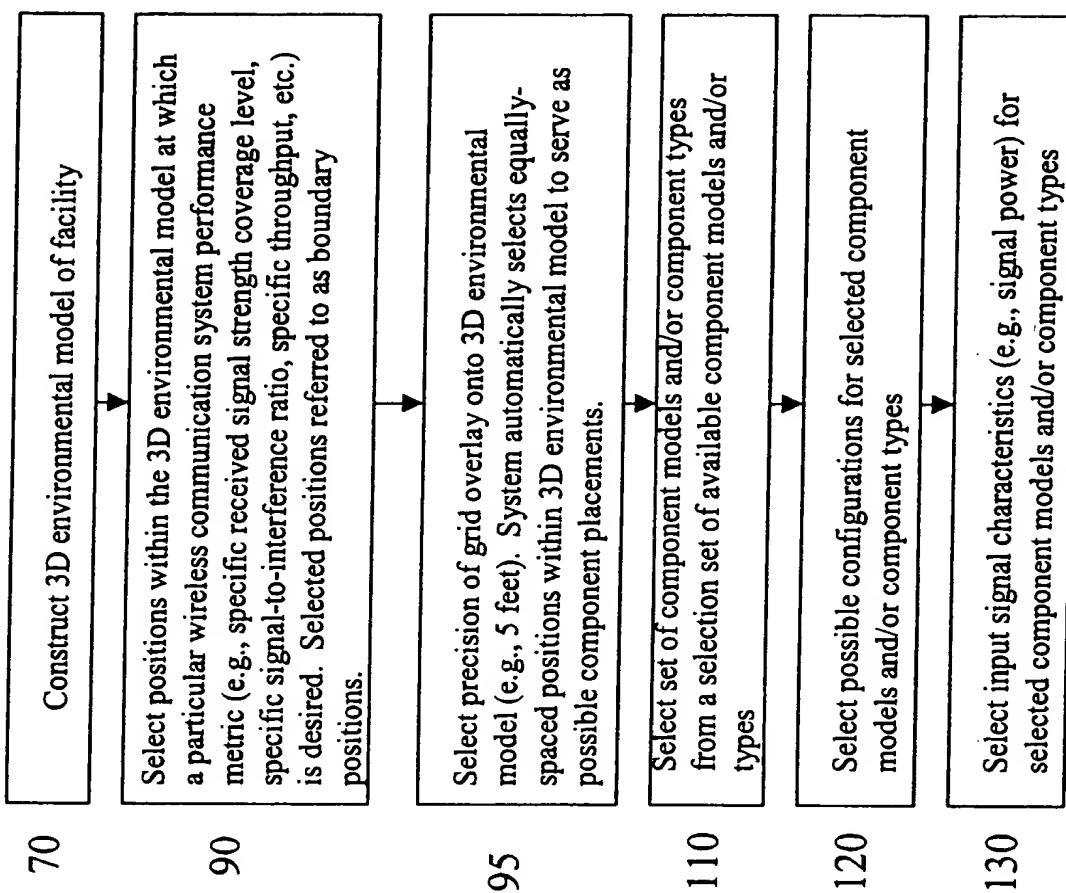


Figure 8

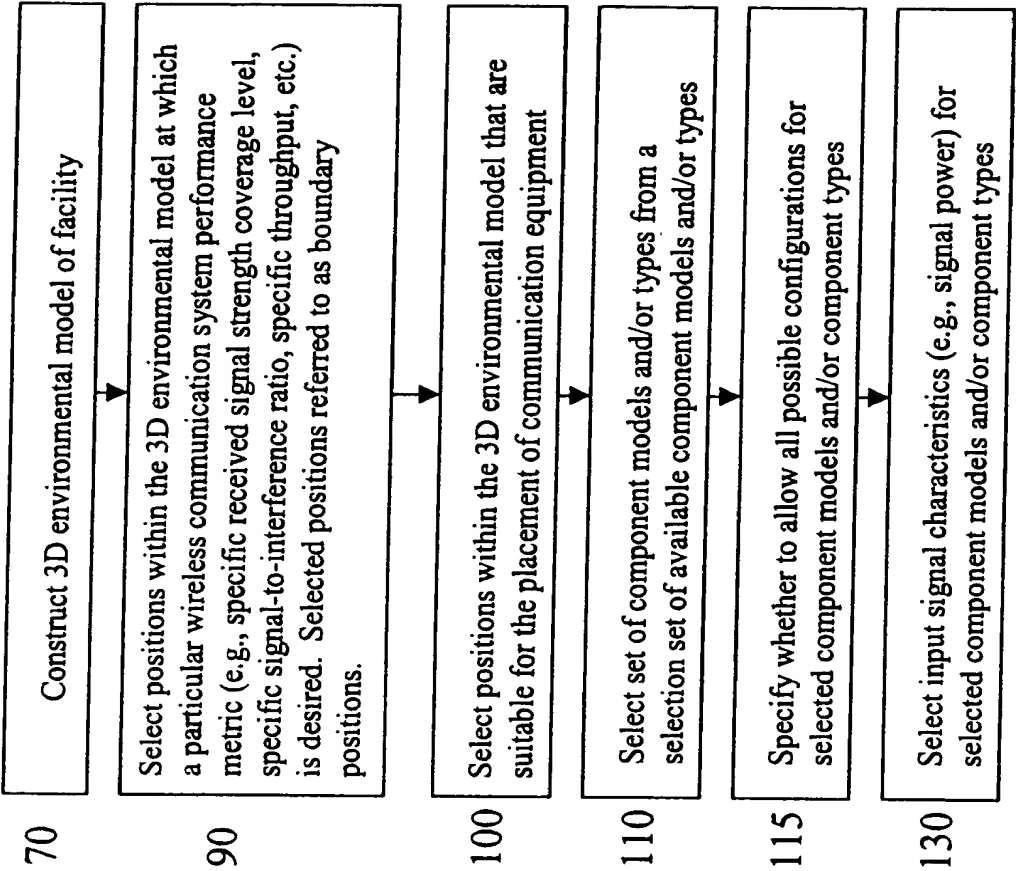


Figure 9



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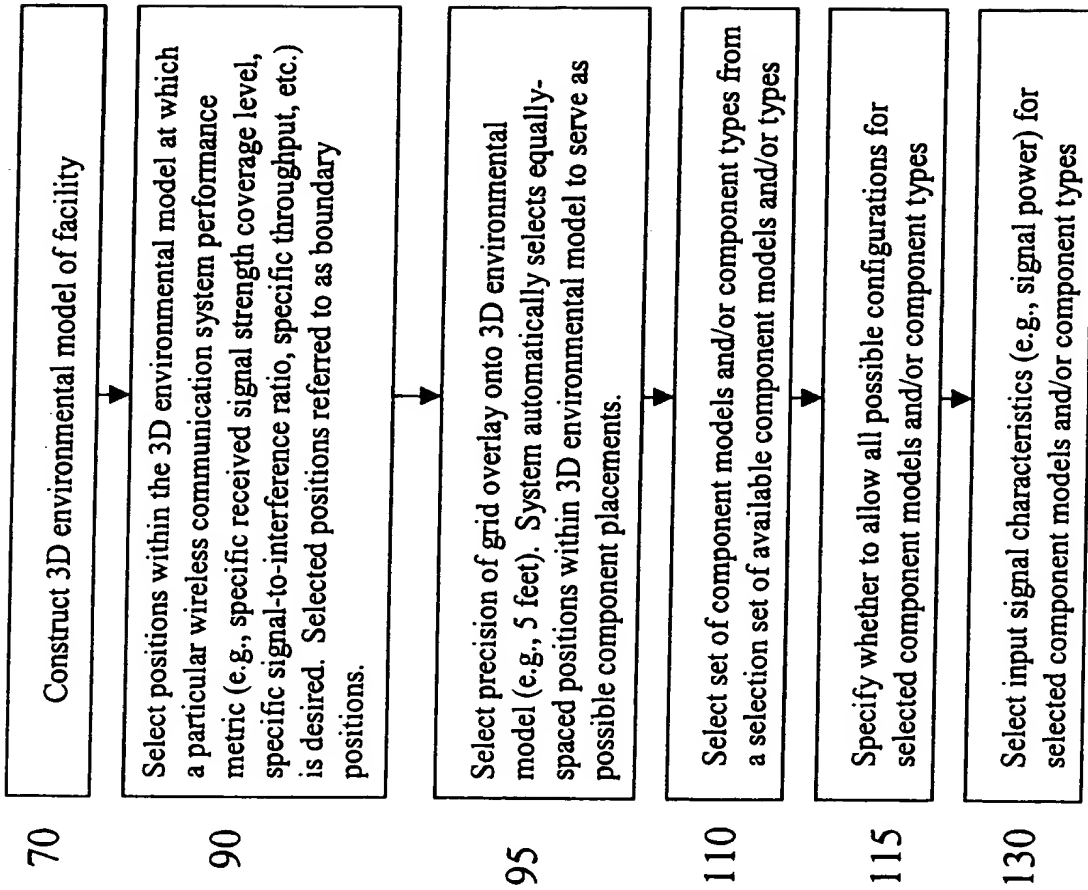


Figure 10

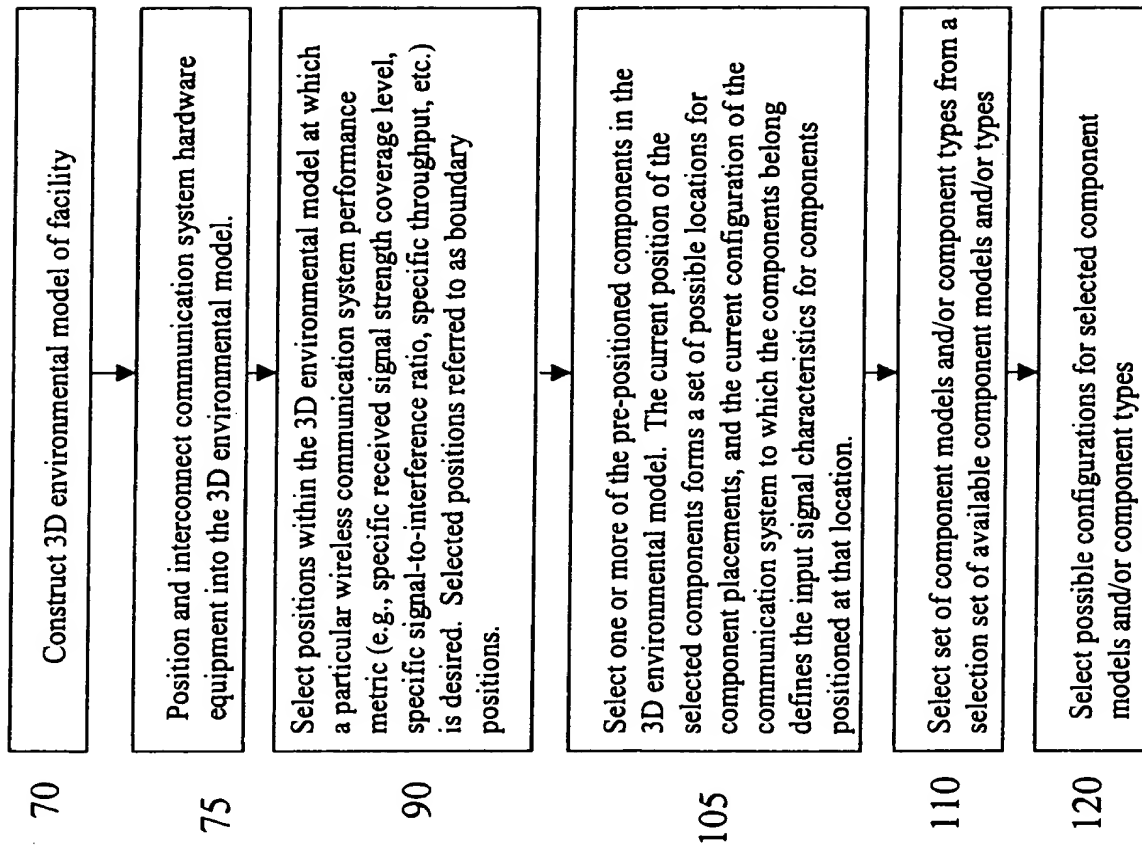


Figure 11



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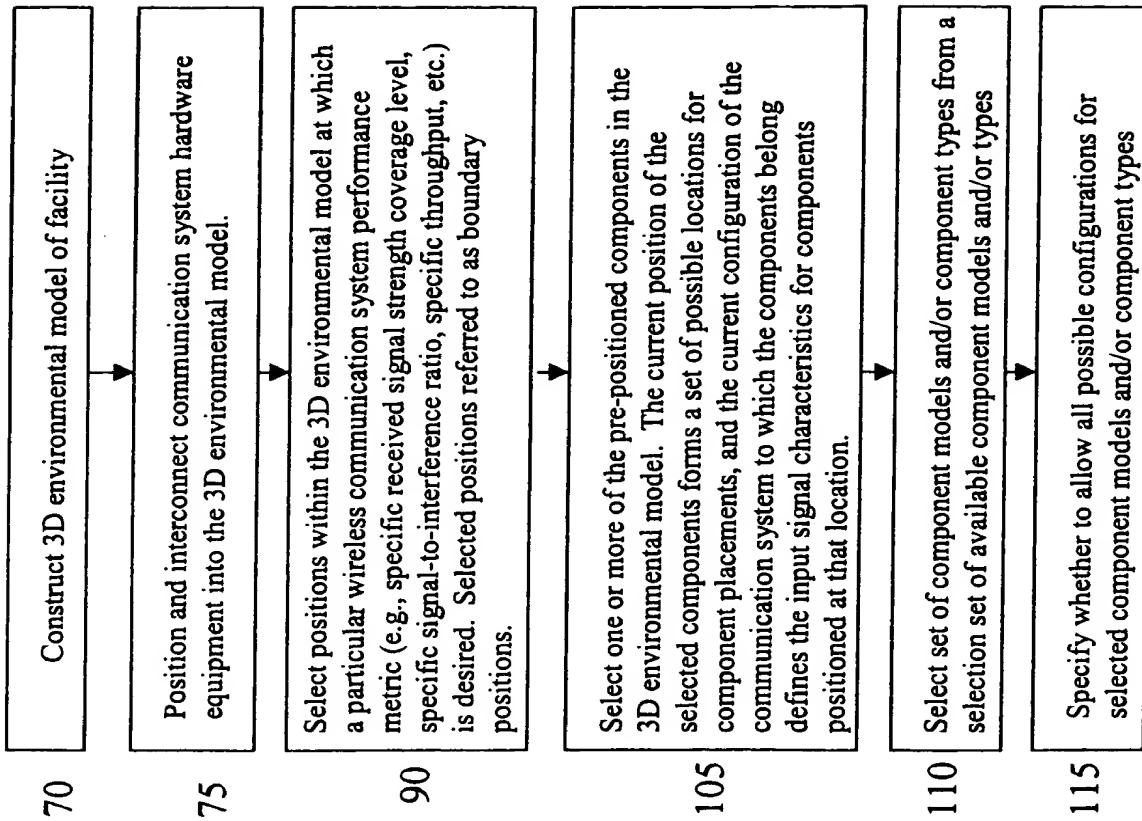


Figure 12



From Figure 7, Figure 8, Figure 9, Figure 10, Figure 11, or Figure 12

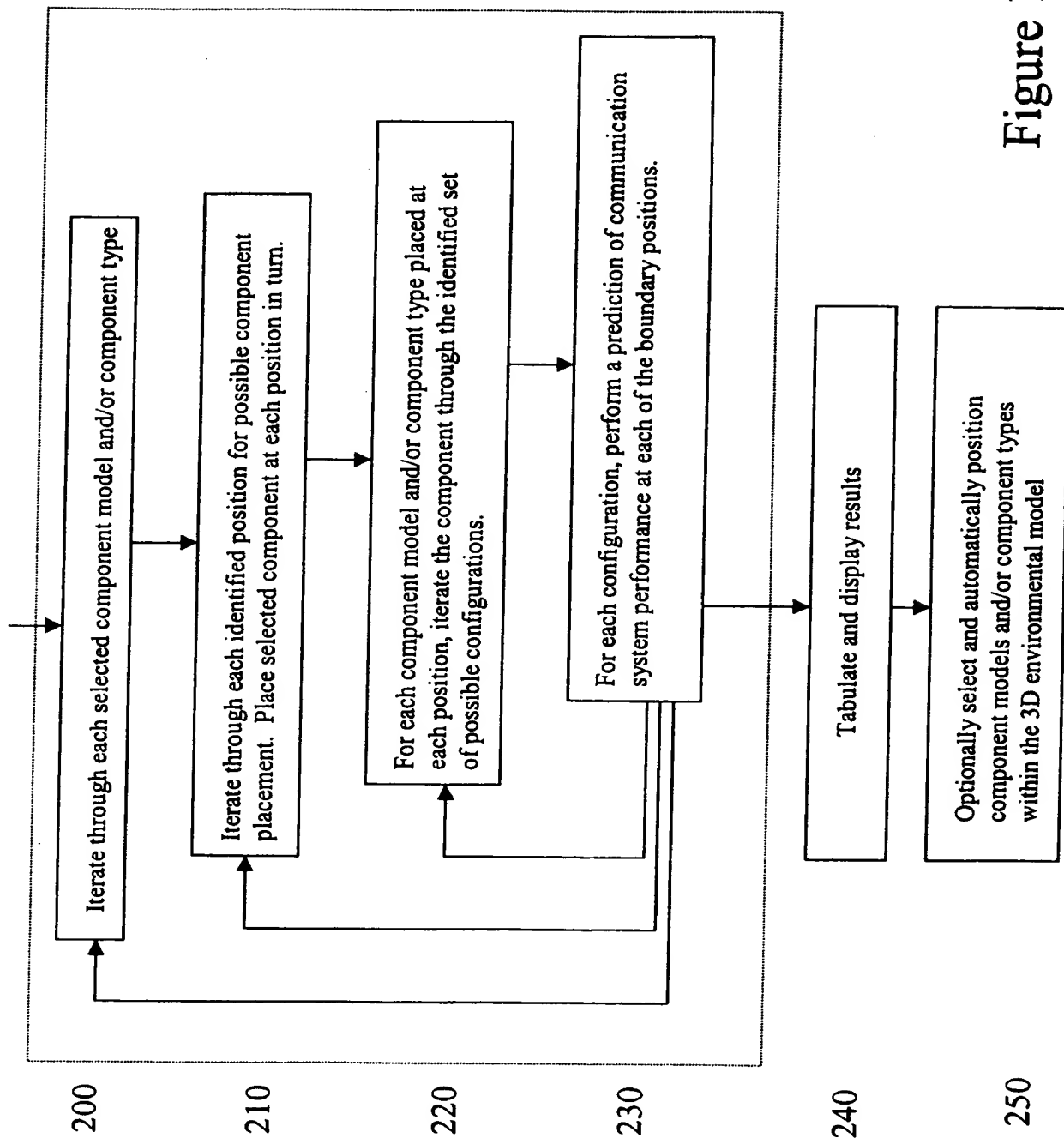


Figure 13



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Antenna Optimizer Results									
Manufacturer	Part #	Description	Mean	Std Dev	X-Axis Rotation	Y-Axis Rotation	Z-Axis Rotation		
Allen Telecom	ASFP2933 1920	dB OMNI PCN 1850-1990 360 deg. 3.00 dB Gain	0.00 dB	0.82 dB	210.00 deg	0.00 deg	250.00 deg		
Algon	7144.23	90 deg. 10 dBd Gain	0.00 dB	0.75 dB	310.00 deg	50.00 deg	150.00 deg		
Antel	RWA-80010	78 deg. 10 dBd Gain	0.00 dB	0.75 dB	260.00 deg	0.00 deg	130.00 deg		
Antenna Specialist	ASP963	60 deg. 17 dB gain	0.00 dB	0.68 dB	80.00 deg	0.00 deg	130.00 deg		
Calwave	PD1109	7.5 dB Gain OMNI	0.00 dB	0.77 dB	90.00 deg	0.00 deg	230.00 deg		
COMSAT RSI Mark...	PCS A 065-16-5	65 deg. 16.8 dBd Gain PCS w/5 deg. D/T	0.00 dB	0.68 dB	120.00 deg	50.00 deg	320.00 deg		
Dapa	58000X	Dual (Slant 45) Polarized 50-ohm 300W	0.00 dB	0.70 dB	130.00 deg	0.00 deg	310.00 deg		
Decibel Products	DB878 H83	83 deg. 15.2 dB Gain	0.00 dB	0.70 dB	170.00 deg	0.00 deg	320.00 deg		
EMS Wireless	FS90-11-00_M2	OptiFill 11 dBd Vert/Slant 45 Polar Array	0.00 dB	0.74 dB	260.00 deg	0.00 deg	20.00 deg		
GENERIC	VERTICAL_DIPOLE_QUARTER	5 dBd margin	0.00 dB	0.80 dB	120.00 deg	0.00 deg	330.00 deg		
Hazelline	806-050-14-0 870	50 deg. 15.13 dBd Gain 870 MHz	0.00 dB	0.70 dB	140.00 deg	0.00 deg	290.00 deg		
Kathrein	740247	6 dB Gain OMNI	0.00 dB	0.79 dB	30.00 deg	0.00 deg	50.00 deg		
Mark	CV108005	Mark 10 dB Gain OMNI	0.00 dB	0.75 dB	270.00 deg	0.00 deg	330.00 deg		
Scale	BP16-875	Scala 48 deg. 16 dB Gain (same as 740215)	0.00 dB	0.69 dB	140.00 deg	0.00 deg	150.00 deg		
Sinclair	SRL411 C4 R105	105 deg. 9.5 dB Gain	0.00 dB	0.75 dB	310.00 deg	50.00 deg	320.00 deg		
Swedcom Corporation	ALP9212N	92 deg. 11.3 dB Gain	0.00 dB	0.74 dB	80.00 deg	0.00 deg	0.00 deg		
TIL-TEK	TA-803 60	TIL-TEK 60 deg. 12.5 dB Gain	0.00 dB	0.00 dB	0.00 deg	0.00 deg	0.00 deg		

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Replace current antenna with selection

Done

Figure 14



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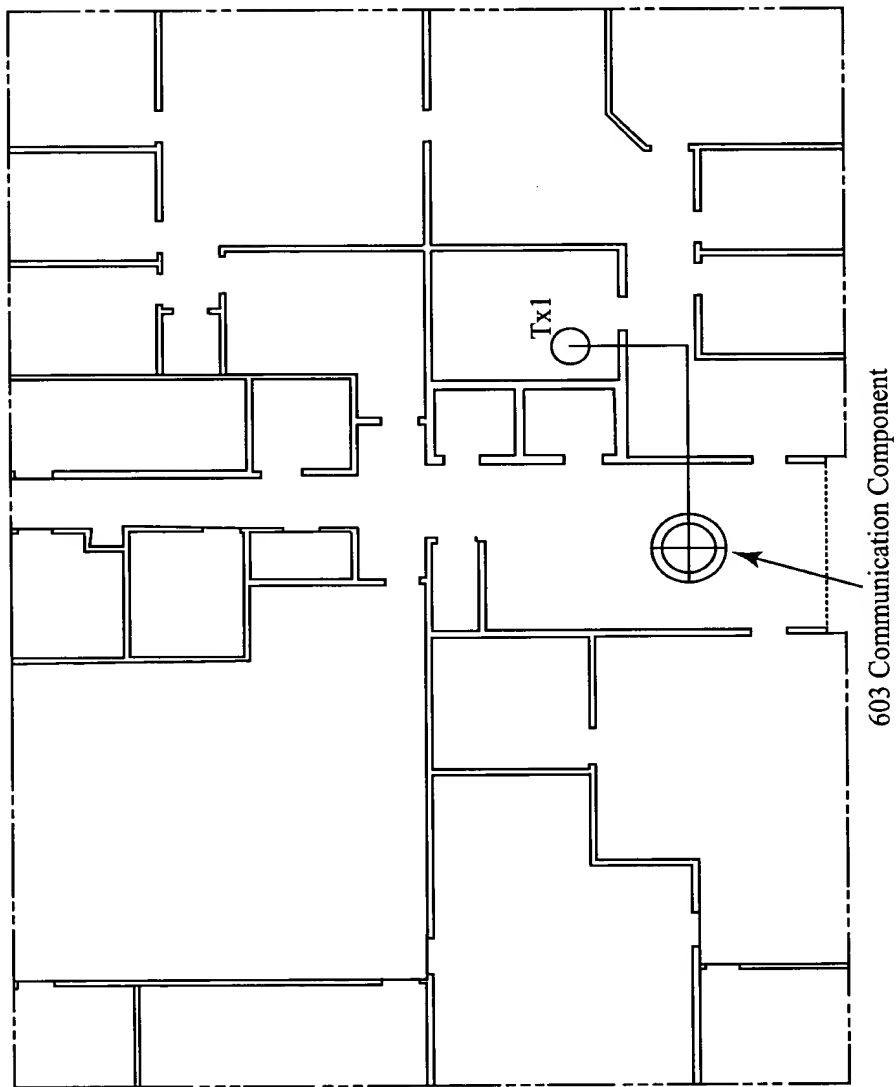


Figure 15